AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the subject application.

Listing of Claims:

1. (Currently Amended) A method of correcting one or more reflectance values when a center wavelength of one or more light sources used to generate corresponding light signals is different from a specified center wavelength for the one or more light sources, the method comprising the steps of:

A. defining, for each of the one or more light sources, a reference spectral distribution {L*} that is characteristic of the one or more light sources and composed ~~comprised~~ of reference light intensity values over a set of reference wavelengths;

B. defining, for each of the one or more light sources, a spectral distribution {L} comprising actual light intensity values over the set of wavelengths;

C. determining the actual reflectance R of a set of reflected signals;

D. defining a set of detector sensitivity data {D} corresponding to the set of detectors receiving the set of reflected signals;

E. determining high resolution reflectance values {r};

F. determining a correction factor as a function of {L}, {L*}, {r} and {D}; and

G. applying the correction factor to R to determine R*.

2. (Original) The method of claim 1, wherein determining the correction factor in step F is valid up to a range of at least about $\pm$ 8 nanometers around the specified center wavelength.

3. (Original) The method of claim 1, wherein the one or more light sources comprise LEDs.

4. (Original) The method of claim 1, wherein at least one of the one or more light sources is an infrared light source and determining {r} in step E comprises measuring reflectance values R_{IR} in the infrared range and determining r_{IR} as a constant representing an average of R_{IR}, where each value in {r} equals the value of $(R/R_{IR})\cdot r_{IR}$ at a corresponding wavelength.

5. (Original) The method of claim 4, wherein the values of {r} are determined at discrete wavelength intervals.

6. (Original) The method of claim 1, wherein the one or more light sources and set of detectors comprise part of a reflectometer.

7. (Currently Amended) A center wavelength correction system configured to correct one or more reflectance values when a center wavelength of one or more light sources used to generate corresponding light signals is different from a specified center wavelength for the one or more light sources, the system comprising:

A. a spectral distribution module configured to determine, for each of the one or more light sources, a spectral distribution {L} comprising actual light intensity values over the set of wavelengths;

B. a reflectance module configure to determine actual reflectance R from a set of reflected signals;

C. at least one storage device comprising:

1) for each of the one or more light sources, a reference spectral distribution {L*} that is characteristic of the one or more light sources and <u>composed</u> ~~comprised~~ of reference light intensity values over a set of reference wavelengths;

2) high resolution reflectance values {r}; and

3) detector sensitivity data {D} corresponding to the set of detectors receiving the set of reflected signals;

D. a correction function module configured to determine a correction factor at a given wavelength as a function of {L}, {L*}, {r} and {D} and to apply the correction factor to R to determine R*.

8. (Original) The system of claim 7, wherein the correction function module is configured to determine the correction factor within a range of at least about $\pm$ 8 nanometers around the specified center wavelength.

9. (Original) The system of claim 7, wherein the one or more light sources comprise LEDs.

10. (Original) The system of claim 7, wherein at least one of the one or more light sources is an infrared light source and the correction function is configured to determine {r} as a function of measured reflectance values R_{IR} in the infrared range and a constant r_{IR} that represents an average of R_{IR}, where each value in {r} equals the value of $(R/R_{IR})\, r_{IR}$ at a corresponding wavelength.

11. (Original) The system of claim 10, wherein the values of {r} are determined at discrete wavelength intervals.

12. (Original) The system of claim 7, wherein the one or more light sources and set of detectors comprise part of a reflectometer.

13. (Currently Amended) A wavelength correction means for correcting one or more reflectance values when a center wavelength of one or more light sources used to generate corresponding light signals is different from a specified center wavelength for the one or more light sources, the system comprising:

A. a spectral distribution means for determining, for each of the one or more light

sources, a spectral distribution {L} comprising actual light intensity values over the set of wavelengths;

B. a reflectance means for determining actual reflectance R from a set of reflected signals;

C. at least one storage means for storing:

1) for each of the one or more light sources, a reference spectral distribution {L*} that is characteristic of the one or more light sources and composed ~~comprised~~ of reference light intensity values over a set of reference wavelengths;

2) high resolution reflectance values {r}; and

3) detector sensitivity data {D} corresponding to the set of detectors receiving the set of reflected signals;

D. a correction function means for determining a correction factor at a given wavelength as a function of {L}, {L*}, {r} and {D} and to apply the correction factor to R to determine R*.

14. (Original) The means of claim 13, wherein the correction function means includes means for determining the correction factor within a range of at least about $\pm$ 8 nanometers around the specified center wavelength.

15. (Original) The means of claim 13, wherein the one or more light sources comprise LEDs.

16. (Original) The system of claim 13, wherein at least one of the one or more light sources is an infrared light source and the correction function means includes means for determining {r} as a function of measured reflectance values R_{IR} in the infrared range and a constant r_{IR} that represents an average of R_{IR}, where each value in {r} equals the value of $(R/R_{IR})r_{IR}$ at a corresponding wavelength.

17. (Original) The system The system of claim 16, wherein the correction function means includes means for determining values of {r} at discrete wavelength intervals.

18. (Original) The system of claim 13, wherein wavelength correction means comprises a portion of a reflectometer means.

19. (Original) A reflectometer comprising:

A. a set of light sources;

B. a set of detectors;

C. a reflectance assembly configured to direct light signals from the set of light sources onto a test product and to direct light signals reflected from the test product onto the set of detectors;

D. at least one storage device configured to store a reference spectral distribution {L*}, a set of high resolution reflectance values {r}, a set of detector sensitivity data {D} corresponding to the set of detectors, a measured spectral distribution {L} corresponding to the set of light sources, and a set of measured reflectance values R; and

E. a correction function module for determining a correction factor at a given wavelength as a function of {L}, {L*}, {r} and {D} and to apply the correction factor to R to determine R*.

20. (Original) The reflectometer of claim 19, wherein the set of light sources comprises a set of LEDs.

21. (Original) A wavelength correction module, in a reflectance-based system comprising a set of light sources, a set of detectors, and a reflectance assembly configured to direct light signals from the

set of light sources onto a test product and to direct light signals reflected from the test product onto the set of detectors, the wavelength correction module comprising:

A. at least one storage device configured to store a reference spectral distribution {L*}, a set of high resolution reflectance values {r}, a set of detector sensitivity data {D} corresponding to the set of detectors, a measured spectral distribution {L} corresponding to the set of light sources, and a set of measured reflectance values R; and

B. a correction function module for determining a correction factor at a given wavelength as a function of {L}, {L*}, {r} and {D} and to apply the correction factor to R to determine R*.

22. (Original) The wavelength correction module of claim 21, wherein the set of light sources comprises a set of LEDs.

23. (New) The method of claim 1, wherein determining a correction factor as a function of {L}, {L*}, {r} and {D} comprises determining a correction factor $c(R) = \left(\frac{\sum L_i * r_i D_i}{\sum L_i * D_i}\right) \Big/ \left(\frac{\sum L_i r_i D_i}{\sum L_i D_i}\right)$.

24. (New) The system of claim 7, wherein the correction function module is configured to determine a correction factor $c(R) = \left(\frac{\sum L_i * r_i D_i}{\sum L_i * D_i}\right) \Big/ \left(\frac{\sum L_i r_i D_i}{\sum L_i D_i}\right)$.

25. (New) The wavelength correction means of claim 13, wherein the correction function means is configured to determine a correction factor $c(R) = \left(\frac{\sum L_i * r_i D_i}{\sum L_i * D_i}\right) \Big/ \left(\frac{\sum L_i r_i D_i}{\sum L_i D_i}\right)$.

26. (New) The reflectometer of claim 19, wherein the correction function module is configured to determine a correction factor $c(R) = \left(\frac{\sum L_i * r_i D_i}{\sum L_i * D_i}\right) \Big/ \left(\frac{\sum L_i r_i D_i}{\sum L_i D_i}\right)$.

27. (New) The wavelength correction module of claim 21, wherein the correction function module is configured to determine a correction factor $c(R) = \left(\frac{\sum L_i * r_i D_i}{\sum L_i * D_i}\right) \Big/ \left(\frac{\sum L_i r_i D_i}{\sum L_i D_i}\right)$.